

## REMARKS

Claims 1-93 are pending in the present application. Claims 33-38 and 70-75 have been allowed. Claims 1-32, 39-69 and 76-93 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,226,509 B1 ("Mole") in view of U.S. Patent No. 6,587,678 B1 ("Molnar").

Applicants respectfully request that the Examiner reconsider the significant rebuttal evidence and arguments made in the Applicants' Response dated November 9, 2004 ("Applicants' Previous Response"), which is hereby incorporated by reference herein in its entirety, in view of the arguments and further rebuttal evidence set forth below. Applicants respectfully submit that the totality of the rebuttal evidence and arguments herein and in Applicants' Previous Response successfully rebut the *prima facie* case of obviousness as alleged by the Examiner. Applicants respectfully request that the Examiner, who now has the burden of going forward, present additional compelling evidence which overcomes the totality of Applicants' rebuttal evidence and arguments.

### Rebuttal to Examiner's "Response to Arguments" Section of Final Rejection

Applicants respectfully submit, in section (A), that the Examiner improperly ignored significant rebuttal evidence and argument supporting teaching-away arguments and, in section (B), that the Examiner did not respond to rebuttal evidence and argument supporting the prohibition against changing the principle of operation of a reference. Applicants respectfully submit that section (A) or section (B) taken individually overcomes the obviousness rejection. Applicants respectfully submit that section (A) and section (B) taken together makes an even stronger case for overcoming the obviousness rejection.

#### A. Ignoring Significant Teaching-Away Rebuttal Evidence and Argument

The Examiner states that

In response to applicant's argument that 'Molnar directly and specifically teaches away from IF down conversion as taught by Mole', it is noted that the features upon which applicant relies (direct down conversion and IF conversion) are not recited in the claims. Although the claims are interpreted in light of the

specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993)."

Final Rejection at page 15.

Two (2) comments by Applicants: (1) Determining whether two references teach away from each other is independent of the recited claim elements. (2) *In re Van Geuns* relates to claim interpretation and not to whether two references teach away from each other. Thus, both reasons set forth by the Examiner for refusing to even consider the direct and specific teachings of Molnar and Mole that directly and specifically teach away from each other are incorrect and unresponsive.

Comment (1). The Examiner has clearly confused two completely different concepts in patent practice and procedure, namely, claim interpretation and the prohibition against combining references that teach away. The two are entirely separate considerations.

For example, the motivation alleged by the Examiner for combining Mole and Molnar is "to improve noise performance and achieve a higher conversion gain". Applying the Examiner's own logic and argument, where are the elements "to improve noise performance and achieve a higher conversion gain" recited in the claims? *Is it not patently unfair that, on the one hand, the Examiner can bring in "features" not recited in the claims to argue for the combination of the teachings of Mole and Molnar and, yet, the Examiner feels justified in ignoring other "features" not recited in the claims when Applicants argue for the improper combination of the teachings of Mole and Molnar (i.e., that the teachings of Mole and Molnar directly and specifically teach away each other)?* Applicants respectfully submit there are logical disconnects and inconsistencies in the Examiner's argument and alleged justification for maintaining the rejection.<sup>1</sup>

Applicants' respectfully pose a hypothetical to demonstrate the point that determining whether two references teach away from each other is independent of the recited claim language. Consider that a hypothetical Reference No. 1 teaches a mousetrap and states that the mousetrap cannot be used outdoors and must be used indoors. Hypothetical Reference No. 2 teaches a

<sup>1</sup> Applicants also respectfully draw the attention of the Examiner to *In re Wesslau*, 353 F.2d 238, 241 (C.C.P.A. 1965) which warns examiners that "[i]t is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art."

mousetrap and states the mousetrap cannot be used indoors and must be used outdoors. Does the Examiner truly doubt that a hypothetical applicant could properly argue that the two references teach away from each other and thus cannot be properly combined without actually reciting "indoors" or "outdoors" in the hypothetical claim language? Thus, the Examiner's response relating to issues concerning claim interpretation is unresponsive and incorrect in the context of determining whether Mole and Molnar teach away from each other and, thus, were improperly combined.

Thus, in view of the above considerations, Applicants respectfully submit that the Examiner reconsider the totality of the rebuttal evidence and arguments presented by Applicants that the teachings of Mole and Molnar directly and specifically teach away from each other as set forth in Applicants' Previous Response.

Comment (2). The cited text from *In re Van Geuns* is an unresponsive and improper response to Applicants' rebuttal evidence and arguments that Mole and Molnar directly and specifically teaches away from each other. Applicants strongly urge the Examiner to re-read the case. If the Examiner re-reads the case which he has cited, then the Examiner will see that the cited text from *In re Van Geuns* relates to claim interpretation and not to the improper combination of two references in view of direct and specific rebuttal evidence and arguments supporting the fact that the two references teach away from each other. Applicants have reproduced the relevant text from *In re Van Geuns* that provides the proper context of the quote applied by the Examiner.

Van Geun's claim 42 recites a magnet assembly with a "uniform magnetic field." The board found that the Japanese reference disclosed a magnet assembly with a substantially uniform magnetic field, varying no more than 10 percent. Van Geuns does not disagree with this finding. Instead, Van Geuns argues that the uniform magnetic field limitation of claim 42 must be interpreted in light of the specification and the understanding of persons skilled in the NMR art and MRI art. Van Geuns then contends that the Japanese reference does not make the invention of claim 42 obvious because it does not teach the level of magnetic field uniformity required for NMR imaging. The short answer is that claim 42 is not expressly limited to NMR or MRI apparatus. In the patentability context, claims are to be given their broadest reasonable interpretations.... Moreover, limitations are not to be read into the claims from the specification.... Thus, Van Geuns cannot read an NMR limitation into claim 42 to justify his argument as to the meaning of the "uniform magnetic field."

*In re Van Geuns*, 988 F.2d at 1184-1185. As Applicants have pointed out, in relevant part, the cited text in *In re Van Geuns* does not relate to a determination as to whether two references that teach away from each other can be combined, but instead relates to claim interpretation and, in particular, an inventor's attempt to narrow the meaning of the phrase "uniform magnetic field" recited in claim 42 in view of the NMR and MRI arts as described in the specification. Thus, the cited text in *In re Van Geuns* is an unresponsive and improper response to Applicants' rebuttal evidence and arguments that Mole and Molnar directly and specifically teach away from each other and, thus, were improperly combined.

Since the reasons given by the Examiner were incorrectly applied, they must be deemed unresponsive. Applicants respectfully request that the Examiner now give proper weight and consideration to the "direct and specific" evidence of that the teachings of Mole and Molnar teach away from each other. It is respectfully submitted that the references were improperly combined in view of such "direct and specific" evidence of teaching away.

As a courtesy, Applicants have reproduced the teaching-away rebuttal evidence and arguments as set forth in Applicants' Previous Response:

M.P.E.P. § 2145(X)(D)(2) states unequivocally that "[i]t is improper to combine references where the references teach away from their combination".

According to the Examiner, Molnar teaches "a direct conversion receiver for receiving a first input signal and directly down converting it to baseband frequencies". See Office Action at page 2. See also, e.g., Molnar title ("Direct Conversion Receiver Employing Subharmonic Frequency Translator Architecture and Related Preprocessor"). As the Examiner is keenly aware, direct down conversion is a completely different architecture and process from intermediate frequency (IF) down conversion. Mole directly and specifically teaches away from direct conversion receivers. In fact, the motivation for the Mole invention is to use intermediate frequency (IF) down conversion (as opposed to direct down conversion as taught by Molnar) to avoid many of the disadvantages of direct down conversion such as, for example, the deleterious effects of dc offsets. For example, a significant problem of direct down conversion is that the directly down converted signal band is corrupted by dc offsets (which may be time varying), for example, at the output of a mixer. These dc offsets cannot be filtered out from the desired signal band without removing desired information in the desired signal band. In response to the problem, Mole specifically and directly teaches away from direct down conversion and, instead, adopts an IF down conversion architecture and process.

In the "SUMMARY OF THE PRIOR ART" section, Mole states that there are two "alternative" lines of thought: (1) direct down conversion and (2) IF down

conversion. With respect to direct down conversion (i.e., the alternative model used in Molnar, but rejected in Mole), dc offsets “occur at the output of a mixer” and “appear as part of the signal”. See Mole at col. 1, lines 63-65. The dc offsets “have the unwanted effect of corrupting data integrity”. See Mole at col. 1, lines 65-66. Furthermore, “[u]nfortunately, these dc offsets cannot be filtered out without removing wanted information in the RF signal. Consequently, the sensitivity of a receiver is limited by the level of the dc offsets.” See Mole at col. 1, line 67 and col. 2, lines 1-3. To overcome the problem of dc offsets, Mole rejects direct down conversion and, instead, adopts IF down conversion. With respect to IF down conversion (i.e., the alternative model used in Mole), Mole states that IF down conversion is an “alternative line of thought with respect to information recovery from a modulated carrier”. See Mole at col. 2, lines 8-9. Mole further explains that “the IF signal, whilst being at reduced frequency relative to the carrier, still has a relatively large frequency displacement with respect to baseband (dc)”. See Mole at col. 2, lines 11-13. Thus, the dc offsets can be filtered from the desired signal band.

In addition, Molnar directly and specifically teaches away from IF down conversion as taught by Mole. In the BACKGROUND section, Molnar describes the advantages of down conversion receivers over IF down conversion receivers as well as the disadvantages of IF down conversion receivers. Molnar states that direct conversion receivers eliminate extra components of IF down conversion receivers such as IF filters, additional mixers and additional local oscillators. See, e.g., Molnar at col. 2, lines 1-3. Furthermore, Molnar disparages IF technology as “bulky, expensive, and not implementable on-chip”. See Molnar at col. 2, lines 4-6. These are but a few of the reasons why Molnar rejects IF down conversion architectures and processes (which are espoused by Mole) and, ultimately, adopts direct down conversion architectures and processes.

Since Molnar specifically and directly teaches away from Mole and since Mole specifically and directly teaches away from Molnar, Mole cannot be properly combined with Molnar. It is therefore respectfully submitted that an obviousness rejection based on the combination of Mole and Molnar cannot be maintained.

Applicants' Previous Response at pages 16-18.

B. No Response to Applicants' Changing-Principle-Of-Operation Argument

The Examiner states that

[i]n response to applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art could be motivated to make the proposed combination of primary and secondary references. In re Nomiya, 184 USPQ 607 (CCPA 1975).

Final Rejection at page 15.

**Applicants did not argue "that there is no suggestion to combine the references". In fact, Applicants did not argue that "[i]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification" as set forth in M.P.E.P. 2143.01.**

*Instead, Applicants argued that "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious." Final Rejection at page 18. This argument is completely different and separate from the prohibition against modifying a reference such that it becomes unsatisfactory for its intended purpose.*

Thus, since the Examiner did not respond to or otherwise appreciate the totality of Applicants' rebuttal evidence and arguments as set forth in the Final Rejection at pages 18-19, Applicants respectfully request that the Examiner give full and fair consideration to the rebuttal evidence and arguments therein.

As a courtesy, Applicants have reproduced the relevant rebuttal evidence and arguments as set forth in Applicants' Previous Response:

M.P.E.P. § 2143.02 states that "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." It is clear that direct down conversion principles and IF down conversion principles are mutually exclusive principles. Mole refers to the two principles as alternative lines of thought. See,

e.g., Mole at col. 1, lines 59-61. Mole emphasizes IF down conversion principles and rejects direct down conversion principles. Molnar emphasizes direct down conversion principles and rejects IF down conversion principles. To modify one in view of the other would inevitably change the principle of operation of the prior art invention being modified. As the prohibition of M.P.E.P. § 2143.02 makes clear, such a modification is not allowed and the teachings of Mole and Molnar are insufficient to render the claims *prima facie* obvious. It is therefore respectfully submitted that an obviousness rejection based on the combination of Mole and Molnar cannot be maintained.

The Examiner also states that the motivation for combining the direct down conversion arrangement of Molnar with the IF down conversion arrangement of Mole was "to improve noise performance and achieve a higher conversion gain". As is clearly described in Mole, Mole adopts an IF down conversion arrangement to avoid the corruption of data integrity which occurs in the direct down conversion arrangement. See, e.g., Mole at col. 1, lines 59-67 and col. 2, lines 1-3. Thus, combining the direct down conversion arrangement of Molnar with the IF down conversion arrangement of Mole would, in fact, degrade noise performance which is in direct contradistinction with the Examiner's motivation for combining Molnar and Mole.

For at least the above reasons, Applicants respectfully submit that the rejection based on Mole in view of Molnar cannot be maintained with respect to claims 1-32, 39-69 and 76-93. It is respectfully requested that the rejection under 35 U.S.C. § 103(a) be withdrawn with respect to claims 1-32, 39-69 and 76-93.

Applicants' Previous Response at pages 18-19.

Applicants respectfully submit that the rebuttal evidence and arguments herein and in the Applicants' Previous Response taken together or individually are enough to overcome the *prima facie* case presented by the Examiner. The burden of going forward has now been shifted to the Examiner in view of the totality of rebuttal evidence and arguments presented.


It is therefore respectfully requested that the obviousness rejections over Mole in view of Molnar be withdrawn with respect to claims 1-32, 39-69 and 76-93.

In view of at least the foregoing, it is respectfully submitted that the pending claims 1-93 are in condition for allowance. Should anything remain in order to place the present application in condition for allowance, the Examiner is kindly invited to contact the undersigned at the below-listed telephone number.

Please charge any required fees not paid herewith or credit any overpayment to the Deposit Account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

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Respectfully submitted,

  
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